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## JC13 Rec'd PCT/PTO 1 8 DEC 2001

## AMENDED CLAIMS

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- 1. An insulating composition for an electric power cable which comprises a crosslinkable ethylene polymer, c h a r a c t e r i s e d in that the ethylene polymer is a multimodal ethylene copolymer obtained by coordination catalysed polymerisation of ethylene and at least one other alpha-olefin in at least one stage, said multimodal ethylene copolymer having a density of 0.890-0.940 g/cm³, a MFR $_2$  of 0.1-10 g/10 min, a MWD of 3.5-8, a melting temperature of at most 125°C, and a comonomer
- of copolymer eluted at a temperature higher than 90°C does not exceed 5% by weight, and said multimodal ethylene copolymer including an ethylene copolymer fraction selected from (a) a low molecular weight
- ethylene copolymer having a density of 0.900-0.950 g/cm<sup>3</sup> and a MFR<sub>2</sub> of 25-500 g/10 min, and (b) a high molecular weight ethylene copolymer having a density of 0.870-0.940 g/cm<sup>3</sup> and a MFR<sub>2</sub> of 0.01-3 g/10 min.
  - 2. An insulating composition as claimed in claim 1, wherein the multimodal ethylene copolymer has a comonomer distribution as measured by TREF such that the fraction of copolymer eluted at a temperature higher than 90°C does not exceed 7% by weight.

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3. An insulating composition as claimed in any one of claims 1-2, wherein the multimodal ethylene copolymer has a viscosity of 2500-7500 Pa.s at 135°C and a shear rate of 10 s<sup>-1</sup>, 1000-2200 Pa.s at 135°C and a shear rate of 100 s<sup>-1</sup>, and 250-400 Pa.s at 135°C and a shear rate of 1000 s<sup>-1</sup>.

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- 4. An insulating composition as claimed in claim 3, wherein the multimodal ethylene copolymer has a viscosity of
- 4000-7000 Pa.s at  $135^{\circ}$ C and a shear rate of 10 s<sup>-1</sup>, 1000-2000 Pa.s at  $135^{\circ}$ C and a shear rate of 100 s<sup>-1</sup>, and
- 35 300-350 Pa.s at  $135^{\circ}$ C and a shear rate of  $1000 \text{ s}^{-1}$ .

AMENDED SHEET

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- 5. An insulating composition as claimed in any one of claims 1-4, wherein the comonomer of the copolymer is at least one member selected from the group consisting of propylene, 1-butene, 4-methyl-1-pentene, 1-hexene, and 1-octene.
- 6. An insulating composition as claimed in any one of claims 1-5, wherein the MWD is 4-5.
- 7. An insulating composition as claimed in any one of claims 1-6, wherein the multimodal ethylene copolymer is a bimodal ethylene copolymer comprising 30-60 % by weight of a low molecular weight ethylene copolymer fraction and 70-40 % by weight of a high molecular weight ethylene copolymer fraction.
- 8. An insulating composition as claimed in any one of claims 1-7, wherein the multimodal ethylene copolymer includes a low molecular weight ethylene copolymer fraction having a density of 0.900-0.950 g/cm3 and a MFR2 of 50-100 g/10 min.
- 9. An electric power cable comprising a conductor surrounded by an inner semiconducting layer, an insulating layer, and an outer semiconducting layer, characterised in that the insulating layer comprises a crosslinked ethylene copolymer obtained by coordination catalysed polymerisation of ethylene and at least one other alpha-olefin in at least one stage, said multimodal ethylene copolymer having a density of 0.890- $-0.940 \text{ g/cm}^3$ , a MFR<sub>2</sub> of 0.1-10 g/10 min, a MWD of 3.5-8, a melting temperature of at most 125°C, and a comonomer distribution as measured by TREF, such that the fraction of copolymer eluted at a temperature higher than 90°C does not exceed 5% by weight, and said multimodal ethylene compolymer including an ethylene copolymer fraction selected from (a) a low molecular weight ethylene copolymer having a density of 0.900-0.950 g/cm3 and a MFR2 of 25-500 g/10 min, and (b) a high molecular weight ethylene copolymer having a density of 0.870-0.940 g/cm3 and a MFR<sub>2</sub> of 0.01-3 g/10 min.